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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/679,047

10/03/2003

Eric M. Watts

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09/09/2004

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EXAMINER

ESTRADA, ANGEL R

ART UNIT

PAPER NUMBER

2831

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/679,047

Applicant(s)

WATTS ET AL.

Examiner

Angel R. Estrada

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

1. The disclosure is objected to because of the following informalities:

In page 3 line 25, change "screw 6" to --screw 4--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-6, 8, 9, 19, 22 and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Pelzer (US 5,212,349).

Regarding claim 1, Pelzer discloses a cylindrical duct (12) having a peripheral wall with cylindrical inner and outer surface (see figure 10), a wire (14) extending longitudinal of said duct (12) between said inner and outer surfaces (see figure 10), said duct (12) being of a first plastic material (column 10 lines 39-41), an external stripe (20 or see figure 10) of a second plastic material (20 or see column 9 lines 46-48) extending longitudinally of said duct (12) in alignment with said wire (14), and said second plastic material (20 or see claim 11) being exposed on said outer surface (see figure 10) and having a different visual

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appearance (column 3 lines 55-57 or column 9 line 67-column 10 line 1) than said first plastic material (see figure 10).

Regarding claim 3, Pelzer discloses the duct (12) wherein said second plastic material (20 or see claim 11) is softer than said first plastic material (column 1 lines 64-68).

Regarding claim 4, Pelzer discloses the duct (12) wherein said first plastic material is high-density polyethylene (column 10 lines 39-42) and said second plastic material (20) can be a lower density polyethylene (see claim 11).

Regarding claim 5, Pelzer discloses the duct (12) wherein said wire (14) is located at an interface between said first and second plastic materials (see figure 10).

Regarding claim 6, Pelzer discloses the duct (12) wherein said wire (14) is encapsulated in said second plastic material (20, see figure 10).

Regarding claim 8, Pelzer discloses the duct (12) wherein said second plastic material (20) forms a concave depression in said outer surface extending longitudinally of said duct (column 9 line 67-column 10 line 1).

Regarding claim 9, Pelzer discloses the duct (12) wherein said second plastic material (20) forms a convex bulge in said outer surface extending longitudinally of said duct (column 9 line 67-column 10 line 1).

Regarding claim 19, Pelzer discloses a cylindrical duct (12) having a peripheral wall with generally cylindrical inner and outer surfaces (see figure 10), a wire (14) extending longitudinally of said duct (12) between said inner and

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outer surfaces, said duct (12) being of a first plastic material (column 10 lines 39-41), said wire (14) being covered solely by an external stripe of a second plastic material (20 and see claim 11) that extends longitudinally of said duct (12), said second plastic material (20 or see claim 11) being of a lower density softer plastic material (since the second plastic material can be LDPE) than said first plastic material (column 10 lines 39-41, since the first plastic material is HDPE) in the hardened solidified state of said first and second plastic materials, and said first and second plastic materials being compatibly crosslinkable and being crosslinked at an interface therebetween (10 or see figure 1).

Regarding claim 22, Pelzer discloses a cylindrical duct (12) having a peripheral wall with cylindrical inner and outer surfaces (see figure 10), a wire (14) extending longitudinally of said duct (12) between said inner and outer surfaces (see figure 10), said duct (12) being of a first plastic material (column 10 lines 39-41), said wire (14) being covered solely by an external stripe (20) of a second plastic material (column 1 line 34-69 or see claim 11) that extends longitudinally of said duct (12), said second plastic material (see claim 11) being bonded to said first plastic material (see figure 10) and being softer than said first plastic material in the hardened solidified state of said first and second plastic materials (see claim 11), said stripe (20) of said second plastic material having a stripe outer surface that is exposed on said duct outer surface (see figure 10 or column 9 line 62-column 10 line 1), and said stripe (20) outer surface having a

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different visual appearance than said duct outer surface (column 9 line 62-column 10 line 1).

Regarding claim 25, Pelzer discloses the duct (12) wherein said first and second plastic materials are compatibly crosslinkable and are crosslinked at an interface therebetween (10 or see figure 1).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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Claims 2, 7, 10-18, 20, 21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelzer (US 5,212,349) in view of Clark, Jr. et al (US 5,532,598, hereinafter Clark).

Regarding claim 2, Pelzer discloses the claimed invention but lacks the second plastic material having a different color than said first plastic material. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20 or column 3 lines 5-19) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

Regarding claim 7, Pelzer discloses the claimed invention except for the first and second plastic materials and said wire being coextruded. Clark teaches a method of providing an external locator stripe for a metal embedded in a peripheral wall of a conduit comprising the steps of coextruding a conduit together with the metal and the stripe (column 6 lines 61-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to coextrude the conduit together with the wire and stripe as taught Clark to provide a better quality of extrusion coating and for reducing the manufacturing process and cost.

Regarding claim 10, Pelzer discloses a method of providing an external locator stripe for a wire (14) embedded in a peripheral wall of a conduit comprising the steps of extruding a duct (12) of a first plastic material (column 10 line 39-41), a wire (14) and a stripe of a second plastic material (20) that overlies the wire (see figure 10); but lack said method comprising the step of coextruding the duct, wire and stripe together. Clark teaches a method of providing an external locator stripe for a metal embedded in a peripheral wall of a conduit comprising the steps of coextruding a duct together with the metal and a stripe (column 6 lines 61-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to coextrude the conduit together with the wire and stripe as taught Clark to provide a better quality of extrusion coating and for reducing the manufacturing process and cost.

Regarding claim 11, the modified Pelzer discloses the method wherein said step of coextruding (as taught by Clark) is carried out with a first plastic material of high-density polyethylene (column 10 lines 39-41) and a second plastic material (20) of lower density polyethylene (see claim 11).

Regarding claim 12, the modified Pelzer discloses the claimed invention except for a second plastic material having a different color than said first plastic material. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have



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been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than said first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

Regarding claim 13, the modified Pelzer discloses the method wherein said step of coextruding (as taught by Clark) is carried out by locating said wire (14) at an interface (usually is a single die, well known in the coextruding process) between said first and second plastic materials (see figure 10).

Regarding claim 14, the modified Pelzer discloses the method wherein said step of coextruding (as taught by Clark) is carried out by encapsulating said wire (14) in said second plastic material (see figure 10).

Regarding claim 15, the modified Pelzer discloses the method wherein said step of coextruding (as taught by Clark) is carried out by extruding said second plastic material (20) to provide a depression (column 9 line 67-column 10 line 1) therein extending longitudinally of the exterior surface of said conduit (see figure 10).

Regarding claim 16, the modified Pelzer discloses the method wherein said step of coextruding (as taught by Clark) is carried out by extruding said second plastic material (20) to provide a convex bulge (column 9 line 67-column 10 line 1) therein extending longitudinally of the exterior surface of said conduit (see figure 10).

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Regarding claim 17, Pelzer discloses a cylindrical duct (12) having a peripheral wall with generally cylindrical inner and outer surfaces (see figure 10), a wire (14) extending longitudinally of said duct (12) between said inner and outer surfaces (see figure 10), said duct (12) being of high density polyethylene plastic material (column 10 lines 39-41), said wire (14) being covered solely by an external stripe of a lower density polyethylene plastic material (20, claim 11) that extends longitudinally of said duct (12), said lower density polyethylene plastic material (20) having a lower density than said high density polyethylene plastic material (well known in the art), said stripe of lower density polyethylene plastic material (20) having a stripe outer surface that is exposed on said duct outer surface (column 9 line 62-column 10 line 1); but Pelzer lacks said stripe outer surface being of a different color than said duct outer surface. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

Regarding claim 18, the modified Pelzer discloses the duct (12) wherein said high-density polyethylene plastic material (column 10 lines 39-41) and said

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lower density polyethylene plastic material (see claim 11) are of different colors (as taught by Clark).

Regarding claim 20, Pelzer discloses claimed invention except for the second plastic material having a different color than said first plastic material. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

Regarding claim 21, Pelzer discloses claimed invention except for said stripe having a stripe outer surface that is of a different color than said duct outer surface. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

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Regarding claim 23, Pelzer discloses the claimed invention except for the said stripe outer surface and said duct outer surface are of different colors. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

Regarding claim 24, Pelzer discloses the claimed invention except for said first and second plastic materials are of different colors. Clark teaches a cylindrical duct (26) being made of a first plastic material (column 1 lines 15-20) and an external stripe being of a second plastic material (53), said second plastic material (53) having a different color (column 3 lines 5-19 or column 6 lines 27-36) than the first plastic material. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Pelzer's second plastic material of a different color than the first plastic material as taught by Clark to provide identification means so that the wire location on the structure may be easily visually determined.

***Response to Arguments***

4. Applicant's arguments filed on June 29, 2004 have been fully considered but they are not persuasive.

a) In response to the arguments to claims 1, 3-6 and 8-9, that Pelzer does not disclose or suggest the concept of using a lower density and softer plastic material to cover the wire, the Examiner disagrees because Pelzer clearly states in claim 11, that the softer filler material (20, the second plastic material) comprises a material identical or ***similar*** to the material of the duct (which is made using High Density Polyethylene, HDPE). There are many plastics that have similar characteristic to HDPE, one of them is LDPE (Low Density Polyethylene) which has almost the same density and chemical properties as HDPE.

The applicant argues that word "similar" referred to as "more at same", "having characteristics in common", "strictly comparable", etc... the Examiner agrees but "similar" also means, "related in appearance or nature" **alike thought not identical**, see "The American Heritage@Dictionary of English Language". Therefore, LDPE is a material that is similar or alike though not identical to HDPE.

The applicant argues that there is only one specific disclosure in Pelzer patent concerning the duct and wire covering plastic material and it is in lines 43-47 of column 5, which states that "It is preferred the duct and filler material which is applied in a heated state to the groove be made of the same synthetic plastic,

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preferably high density polyethylene HDPE with a copper wire as the detector wire, preferably an enameled copper wire.” This statement discloses that it is **preferred** to make the duct and the filler of the same material, it doesn’t mean that it has to be the same material, but that it is the preferable or desirable embodiment; as shown in claim 6, the reference claims that the filler material comprises a plastic, it doesn’t state which type of plastic. Therefore, any type of plastic can be used as a filler material and will not affect the scope of the invention.

5. Applicant's arguments to claims 10-16 have been fully considered but they are moot in view of the new ground of rejection.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pelzer (US 5,415,242) and Claassen et al (GB 2197419A) disclose a cylindrical duct having a wire and an external stripe. The American Heritage Dictionary discloses the definition of the word “similar”. The Techplas Material publication discloses on page 3 that LDPE is a semi-rigid material with properties similar to HDPE. Roger D. Corneliussen (Properties) discloses the properties of HDPE and LDPE. Dow Chemical Company (Coextrusion) defines the coextrusion process and teaches the advantages of such process.

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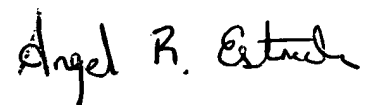
7. Any inquiry concerning this communication should be directed to Angel R. Estrada at telephone number (571) 272-1973. The Examiner can normally be reached on Monday-Friday (8:30 -5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 Ext: 31. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AE

August 30, 2004

A handwritten signature in black ink that reads "Angel R. Estrada". The signature is written in a cursive style with a large initial 'A' and a stylized 'E'.

Angel R. Estrada  
Patent Examiner  
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